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10/064,521	07/24/2002	Tsung-Chih Lin	VIAP0042USA	6634

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EXAMINER	
PATEL, GAUTAM	
ART UNIT	PAPER NUMBER

2655

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,521

Applicant(s)

LIN, TSUNG-CHIH

Examiner

Gautam R. Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-12 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 4 and 13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1-21-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 1-18 are pending for the examination.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. § 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The disclosure is objected for following reasons.

The title of the invention is neither precise nor descriptive. A new title is required which should include, using twenty words or fewer, claimed features that differentiate the invention from the Prior Art. It is recommended that the title should reflect the gist of or the improvement of the present invention.

Correction is required.

Claim Rejections - 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless:

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 9-12 and 18 are rejected under 35 U.S.C. § 102(b) as being anticipated by Den Boef et al., US. patent 6,134,209 (hereafter Den Boef).

As to claim 1, Den Boef discloses the invention as claimed, a writing power control method of a compact disc drive [see Figs. 1-3] including constructing a polynomial function, retrieving the target read-back signal, determining a first writing

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power, performing a writing test procedure, and comparing the real read-back signal comprising the steps of:

- (a) constructing a polynomial function which represents a relationship between a writing power and a target read-back signal parameter;
- (b) retrieving the target read-back signal parameter from the compact disc;\
- (c) determining a first writing power corresponding to the target read-back signal parameter according to the polynomial function;
- (d) performing a writing test procedure using the first writing power to determine a real read-back signal parameter;
- (e) comparing the real read-back signal parameter with the target read-back signal parameter; and
- (f) if a difference between the real read-back signal parameter and the target read-back signal parameter is less than a predetermined value, writing data in the compact disc using the first writing power [col. 2, lines 14-34 & col. 4, line 24 to col. 5, line 45].

5. The aforementioned claim 2, recites the following steps, inter alia, disclosed in Den Boef:

if the difference between the real read-back signal parameter and the target read-back signal parameter is greater than the predetermined value, step(e) further comprises shifting the polynomial function [the values g_0 , h and P_i does this shifting] according to the real read-back signal parameter, determining a second writing power according to both the shifted polynomial function and the target read-back signal parameter, and performing the writing test procedure again until the difference between the real and target read-back signal parameters is less than the predetermined value [col. 5, line 16 to col. 7, line 17].

6. The aforementioned claim 3, recites the following steps, inter alia, disclosed in Den Boef:

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the compact disc comprises a power calibration area (PCA) [inherently present power calibration is done] for performing the writing test procedure to determine the writing power [col. 2, lines 14-34 & col. 4, line 24 to col. 5, line 45].

7. The aforementioned claim 9, recites the following steps, inter alia, disclosed in Den Boef:

the polynomial function is constructed from a polynomial curve fitting method [col. 4, lines 54-67].

8. As to claims 10-12 and 18, they are rejected for the similar reasons set forth in the rejection of claims 1-3 and 9 respectively, supra.

Claim Rejections - 35 U.S.C. § 103

9. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8, 14-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Den Boef as applied to claims 1-3 & 9-12 above in view of Kelly, US. patent 6,557,126 (hereafter Kelly).

As to claim 5, Den Boef discloses all of the above elements, including test areas and calibration areas. Den Boef does not specifically disclose the type of the discs this calibration is done on, such as CD-R and/or CD-RW and associate details such as Beta and Gamma values. Den Boef does clearly disclose different data recording power waveforms, but Den Boef does not go into the well known details of these waveforms, such as front wave form middle waveform and last waveform that are being used for calibration.

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However, series of waveforms are well known and expected in the art as clearly shown by Den Boef. Also CD-R and/or CD-RW are also well known in the art for a long time.

Also Kelly clearly discloses:

the power calibration area comprises a test area for performing the writing test procedure and a count area for recording an execution number of the writing test procedure, the test area comprises a plurality of blocks, each block is capable of performing the writing test procedure once, and the writing test procedure comprises: selecting successive blocks from the test area; performing the writing test procedure on the successive blocks using the first writing power; and determining the real read-back signal parameter according to a single result [fig. 2, Waveform 30-2] of a read-back signal parameter obtained from the middle block of the successive blocks [col. 1, line 64 to col. 2, line 28].

Both Den Boef and Kelly are interested in improving the method for calibrating write power in an optical disk device. Both shows write power and read power control mechanism.

One of ordinary skill in the art at the time of invention would have realized that in the system of Den Boef would have some bit errors despite determining the amount of write power based on different value of Beta and Gamma.

Therefore, it would have been obvious to have used a write power based on the number of bit errors of data in the system of Den Boef as taught by Den Boef because one would be motivated to reduce the number of bit errors of the data and thus improve the quality of the data read and written on the disc [col. 4, lines 18-22; Kelly].

10. The aforementioned claim 6, recites the following steps, inter alia, disclosed in Kelly:

the compact disc drive is a CD-R drive, and the target read-back signal parameter is a P value of a read-back signal according to a specification of the CD-R drive [col. 1, line 64 to col. 3, line 56 and col. 6, lines 10-24].

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11. The aforementioned claim 7, recites the following steps, inter alia, disclosed in Den Boef:

the compact disc drive is a CD-RW drive, and the target read-back signal parameter is a y parameter of a read-back signal according to a specification of the CD-RW drive [col. 1, line 64 to col. 3, line 56 and col. 6, lines 10-24].

12. As to claim 8, Combination of Den Boef and Kelly teaches all of the above steps including having different area for storing target read-back signal. The Combination does not teach that target read-back signal is retrieved from data stored in the lead-in area. "Official Notice" is taken that both the concept and the advantages of providing a lead-in area to retrieve read-back signal are well known and expected in the art. It would have been obvious to include a lead-in area in system of Den Boef and Kelly as this lead-in areas are known to provide the system an easy access to the data needed for processing and each parameter of each test operation can be easily reached and thus easily processed, thus saving processing time on the system. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

13. As to claims 14-17, they are rejected for the similar reasons set forth in the rejection of claims 5-8 respectively, supra.

Allowable Subject Matter

14. Claims 4 and 13 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

NOTE: Claims 4 and 13 are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose a writing power control method where the power calibration area comprises a test area, which comprises plurality of blocks and the read-back signal parameter is determined

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according to "an average result of the read-back signal parameter obtained from a plurality of middle blocks of the successive blocks". It is noted that the closest prior art, Kelly clearly discloses plurality of these kind of blocks [fig. 2, blocks associated with data 30-1 to 30-3] and shows a similar apparatus which writes power calibration values in areas as described. However Kelly fails to disclose a plurality of middle blocks and taking an average results from these blocks.

Other prior art cited

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Jaquette et al. (US. Patent 5,790,491) "Calibrating optical disk".
- b. Finkelstein et al. (US. patent) "Calibrating lasers ..".
- c. Call et al. (US. patent 5,268,893) "Write power calibration"
- d. Hiroki (US. patent 5,703,841) "Optical information".
- e. Watanabe et al. (US. patent 6,542,917) "Storage Apparatus".

Contact Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

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Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

December 20, 2004

A handwritten signature in black ink, appearing to read 'Gautam R. Patel', with a long horizontal stroke extending to the right.

GAUTAM R. PATEL
PRIMARY EXAMINER